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U. S. DEPARTMENT OF AGRICULTURE  
NATIONAL ECONOMIC RESEARCH SERVICE

JUL 26 1965

COMMERCIAL WHEAT FARMS

# **COSTS and RETURNS**



**Commercial  
Wheat  
Farms**

**Pacific Northwest  
Northern Plains  
Southern Plains**

**1964**

## FARM COSTS STUDIES

This report is part of a continuing nationwide study of costs and returns on commercial farms and ranches by type and size in some of the important farming regions of the United States. The study is conducted under the general supervision of Wylie D. Goodsell, Farm Production Economics Division, Economic Research Service. Objectives, methodology, procedure, and terms are uniform for all areas covered in the study.

The 1964 costs and returns studies have been conducted on the following:

- Dairy Farms, Northeast and Midwest
- Corn Belt Farms
- Egg-Producing Farms, New Jersey
- Broiler Farms, Maine, Delmarva, and Georgia
- Cotton Farms
- Tobacco Farms, Coastal Plain, North Carolina
- Tobacco-Livestock Farms, Bluegrass Area, Kentucky
- Wheat Farms, Plains and Pacific Northwest
- Western Livestock Ranches

Summary statistics for all types of farms in the study are presented in a report, revised annually. The latest such report was published in 1964 and is titled: "Farm Costs and Returns, Commercial Farms, by Type, Size, and Location," Agriculture Information Bulletin No. 230, Revised 1964.

Information on the studies can be obtained from Farm Production Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20250.

# COSTS AND RETURNS COMMERCIAL WHEAT FARMS, PACIFIC NORTHWEST, NORTHERN PLAINS, AND SOUTHERN PLAINS 1964

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Costs and returns for 1963 and 1964 on typical western wheat farms in 3 important wheat-producing areas in the United States are presented in this report (fig. 1). In 1964, incomes on these farms varied from \$5,062 per farm on wheat-corn-livestock farms in the Northern Plains to \$15,190 on wheat-pea farms in the Pacific Northwest. Incomes in 1964 varied from 25 percent below 1963 on wheat-corn-livestock farms to 14 percent above on wheat-small grain-livestock farms. Net farm incomes in 1963 and 1964 were as follows:

	<u>1963</u>	<u>1964</u>	<u>Percentage change</u>
Pacific Northwest:			
Wheat-fallow farms . . . . .	\$15,275	\$13,836	-9
Wheat-pea farms . . . . .	17,408	15,190	-13
Northern Plains:			
Wheat-fallow farms . . . . .	9,073	7,567	-17
Wheat-small grain-livestock farms . . . . .	7,622	8,690	14
Wheat-corn-livestock farms . . . . .	6,711	5,062	-25
Southern Plains:			
Wheat farms . . . . .	9,086	8,271	-9
Wheat-grain sorghum farms . . . . .	7,024	6,949	-1

Prices for wheat and cattle and per acre yields of corn and sorghum were generally lower in 1964 than in 1963. However, yields of wheat and other early-maturing crops and payments for participation in Government programs tended to be higher in 1964.

In 1963, wheat allotments were in effect, and the price of wheat was supported at \$1.82 per bushel, national average; in addition, farmers received price support payments equal to 18 cents per bushel of normal yield on the planted acreage. The 1963 season average price of wheat was \$1.85 per bushel.

In 1964, wheat allotments were not in effect, but farmers could participate in a voluntary program. About 35 percent of the farmers controlling 76 percent of the allotted acreage participated in that program. For participating farmers who planted within their allotments, prices of wheat were supported at \$1.30 per bushel, national average.

Participating farmers received diversion payments of 20 percent of the county's wheat loan rate multiplied by the farm's normal yield on the 11.11 percent minimum qualifying diversion and on additional



# LOCATION OF TYPES OF FARMS STUDIED

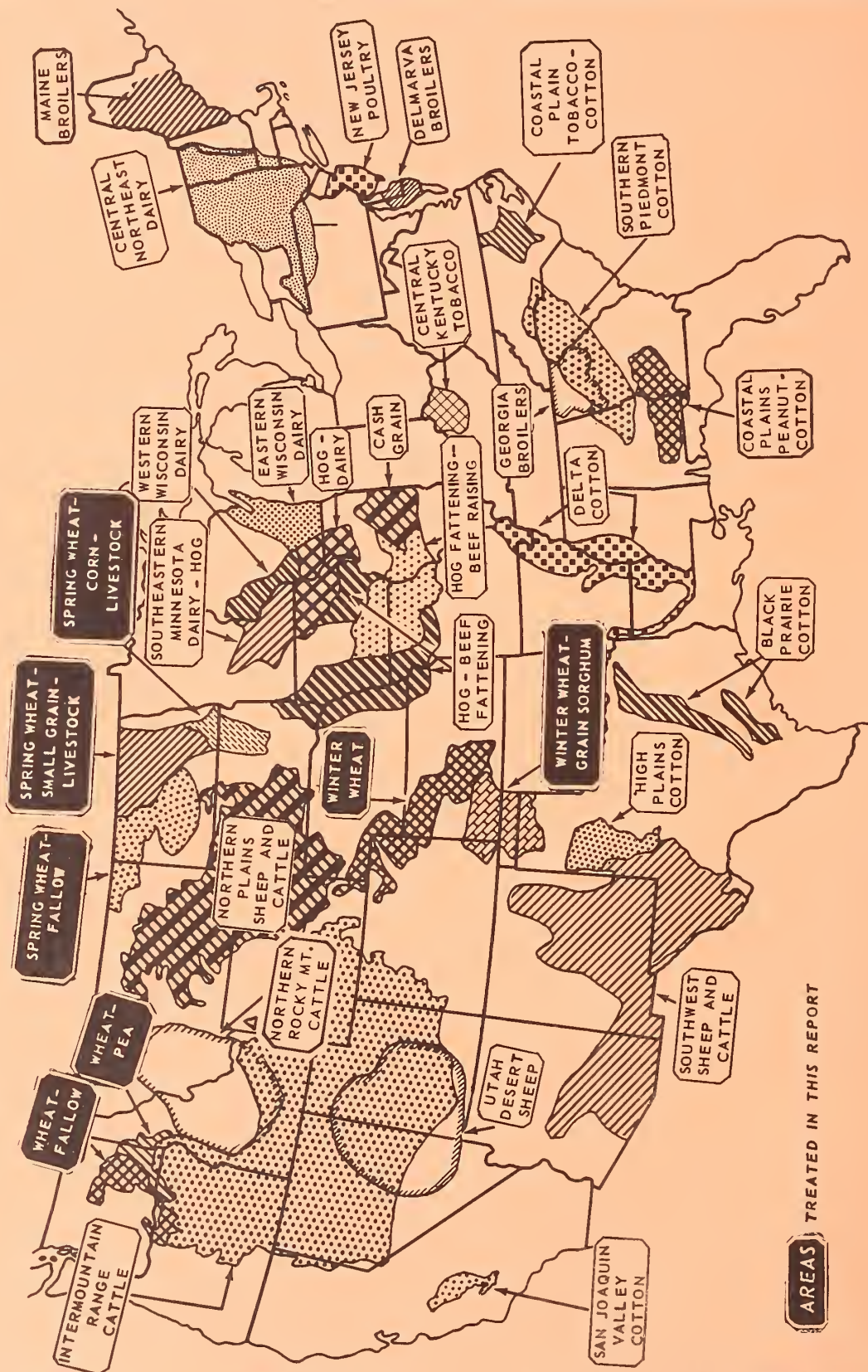


Figure 1

diversion of up to 20 percent of the allotment or up to a total of 15 acres, if this was larger.

Cooperating producers received negotiable certificates based on the normal production of their eligible acreage planted for harvest. The certificates had a fixed value of 70 cents per bushel for the domestic marketing certificates equal to the producer's share of the national marketing allocation for U.S. food wheat, and 25 cents per bushel for the export marketing certificates, covering his share of the export marketing allocation. Forty-five

percent of normal wheat production on a farm's allotted acreage, if planted, was covered by domestic certificates, and up to 45 percent was covered by export certificates.

Nonparticipating farmers were not eligible for price support loans or marketing certificates. The 1964 season average price for wheat is expected to be \$1.38 per bushel, national average, including the value of wheat delivered to the Commodity Credit Corporation in payment of nonrecourse loans. Prices received by nonparticipants may average somewhat lower.

## PACIFIC NORTHWEST

### Wheat-Fallow Farms

Net farm incomes on wheat-fallow farms in the Pacific Northwest were about 9 percent lower in 1964 than in 1963 (table 1) and about 12 percent below the 1957-59 average. Most of the reduction in net income resulted from lower prices received for wheat. Operators of these farms received \$1.36 per bushel in 1964 and \$1.94 in 1963. A 2-percent increase in expenses contributed to the decline in net farm income.

Farm production in 1964 was 7 percent higher than in 1963 and 4 percent higher than in 1957-59. Government payments for the wheat and feed grain programs were substantially higher in 1964 than in 1963. Total Government payments, including soil conservation payments, amounted to about 17 percent of cash receipts in 1964. This contrasts with 4 percent in 1963 and 2 percent in 1957-59. The increase

in Government payments in 1964 largely offset the drop in prices received, which were 23 percent below 1963 and 21 percent below 1957-59.

Prices paid for machinery, supplies, and wages for hired labor have been increasing gradually since 1950. The index of these prices (1957-59 = 100) was 80 in 1950 and 108 in 1964. The price of land has also been increasing. These farmers were paying about \$52 per acre for farmland in 1950 and about \$95 per acre in 1964. Over the years, the typical wheat farm has tended to increase in size. Some of this increase has been accomplished by purchasing additional land. Recent acquisitions have tended to augment the squeeze of higher costs and to increase the risks from a possible decline in receipts.

Wheat-fallow farmers occasionally have a poor crop. For example, production in 1955 was 36 percent



Table 1.- Organization, production, costs and returns, wheat farms, Pacific Northwest, 1963 and 1964

Item	Unit	Wheat-fallow farms			Wheat-pea farms		
		1963	1964	1964 1/	1963	1964	1964 1/
Gross farm income.....	Dollar	25,997	24,777		30,965	28,554	
Total operating expenses.....	do.	10,722	10,941		13,557	13,364	
Net farm income.....	do.	15,275	13,836		17,408	15,190	
Total land in farm.....	Acre	1,430	1,460		600	605	
Total cropland.....	do.	1,037	1,066		546	550	
Cropland harvested.....	do.	460	453		391	371	
Wheat.....	do.	312	319		178	176	
Other small grains.....	do.	133	119		81	60	
Hay.....	do.	14	15		19	22	
Peas.....	do.	---	---		112	112	
Inventory value, Jan. 1:							
Land value, per acre.....	Dollar	93	95		293	292	
Machinery and equipment.....	do.	19,850	20,240		23,100	23,620	
All cattle and calves.....	Number	35.0	36.0		17.3	17.3	
Crop yields per harvested acre:							
Wheat.....	Bushel	31.6	33.4		51.4	60.2	
Barley.....	Cwt.	16.3	18.0		24.8	27.0	
Peas.....	do.	---	---		15.1	16.7	
Prices received for products sold:							
Wheat, per bushel.....	Dollar	1.94	1.36		1.85	1.27	
Barley, per ton.....	do.	36.66	39.58		35.86	38.36	
Peas, per cwt.....	do.	---	---		4.29	3.87	
Steers and heifers, per cwt.....	do.	22.00	20.10		21.95	19.65	
Index numbers (1957-59=100):							
Crop yields per acre.....	---	93	100		113	129	
Prices received for products sold.....	---	103	79		104	82	
Prices paid, including wages to hired labor.....	---	106	108		105	106	

1/ Preliminary.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.



below the 1957-59 average. Aside from an occasional bad year, the trend in production per acre of farmland has been upward. In 1950-56, the value of production at 1957-59 prices averaged \$14.55 per acre of farmland, and in 1957-64, the value of production at these prices averaged \$17.26 per acre. Higher yields per acre have more than offset a decline in harvested acreage. In 1957-59, the harvested acreage on these farms averaged 477 acres per farm. In 1963, the average was 460 acres; in 1964, it was 453 acres.

Only about 10 percent of the gross income on typical wheat-fallow farms is normally obtained from livestock and livestock products. In 1964, this income amounted to \$2,700 per farm.

The level of farm prosperity may be indicated by the ratio of net farm income to farm capital. In computing net farm income, no deductions are made for interest on capital or for family labor and management. In 1964, on typical wheat-fallow farms, the value of family labor, at hired labor wage rates, was about equal to 4 percent of the value of capital. Farm capital consists of crops and livestock, machinery and equipment, and real estate. Crops and livestock are appraised at current prices, machinery and equipment at current costs less depreciation, and real estate on the basis of current purchases. Expectation of future income is of major importance in determining land values. In 1964, real estate values accounted for 84 percent of farm capital.

The trend in the value of farm capital on wheat-fallow farms has

been increasing for many years. From 1955 to 1964, this value increased from \$120,500 to \$164,900 (fig. 2). This upward trend was accompanied by an increase in net farm income. Net farm income averaged \$12,900 in 1955-59 and \$13,800 in 1960-64. The rate at which net farm income has been moving upward has been interrupted by occasional years of declining incomes. For example, following the record-high income year of 1957, there were 4 consecutive years when the income was lower each year. During this period, the value of farm capital continued to increase.

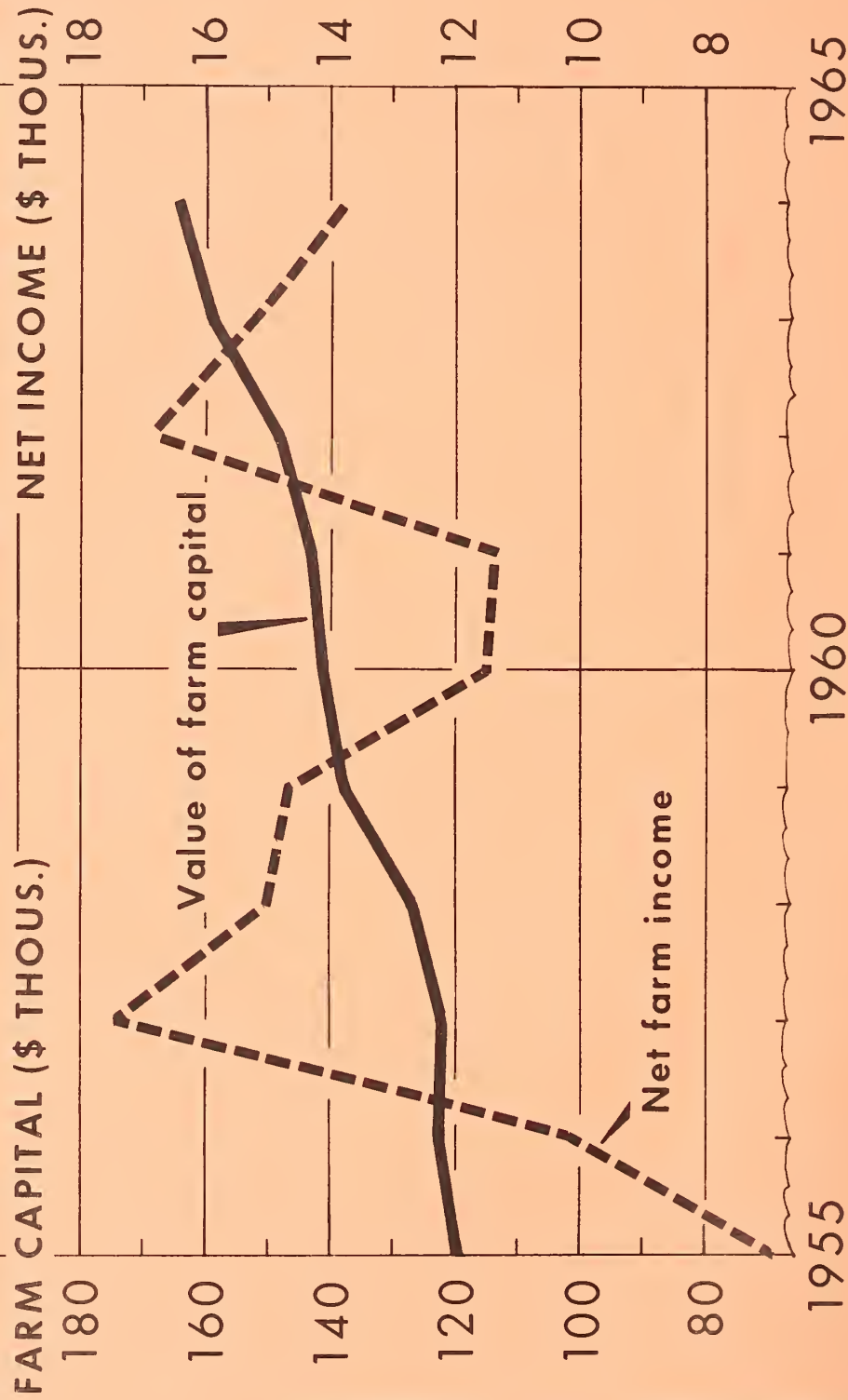
Net farm income in 1955-64 averaged 9.6 percent of the current value of capital. The percentage fluctuated between 5.5 and 14.3. While there is a general relationship between the value of farm capital and farm income, the relationship from one year to the next is not close. Annual differences in crop yields and prices received are the most important factors causing differences in the rate of return.

## Wheat-Pea Farms

Net incomes on wheat-pea farms in 1964 averaged 13 percent lower than in 1963 (table 1) and 22 percent lower than the record high in 1962. However, they were 13 percent above the 1957-59 average. Prices received for products sold in 1964 averaged 21 percent lower than in 1963, and prices paid for goods and services averaged 1 percent higher. Prices received for all major products were lower in 1964, with the exception of barley prices, which were 7 percent higher. Wheat prices were 31 percent lower, and prices received for peas, steers, and heifers were each approximately 10

Wheat-Fallow Farms, Pacific Northwest

# FARM CAPITAL AND NET FARM INCOME



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Figure 2



percent lower. Government payments received by typical wheat-pea farmers averaged \$2,229 per farm in 1964, compared with \$528 in 1963. These payments partially compensated for reduced acreage and lower prices.

Farm production on these farms has been rising sharply since 1961. The index of production was 128 (1957-59 = 100) in 1964, exceeding the previous record high of 117 a year earlier. The index was 115 in 1962 and only 87 in 1961.

Farms with 640 or more acres per farm have been increasing relative to the number of smaller farms. The median wheat-pea farm had 550 acres in 1957 and 605 acres in 1964. This is a 10-percent increase in 7 years. But the acreage harvested per farm has not increased significantly. The proportion of the farmland in harvested crops and the ratio of the acreage of one crop to another vary somewhat by years. These variations may at times affect production, but during the last 10 years, the variation in crop yields explains most of the variation in production on wheat-pea farms.

Yields of all crops on wheat-pea farms in 1964 were at or near alltime highs. Wheat averaged 60 bushels per harvested acre, winter barley 62 bushels, spring barley 55 bushels, oats 80 bushels, peas 16.70 hundredweight, and hay 1.8 tons. With the exception of hay, these yields were the highest ever recorded. However, the proportion of cropland used for oats has been declining for many years and amounted to only 1 percent of the total harvested acreage in 1964. Winter barley is a comparatively new crop on wheat-pea farms. In

1962, about 37 percent of the harvested barley acreage was winter barley. In 1963, because of severe winter, only 13 percent of the acreage seeded to winter barley was harvested. Probably because of this experience, winter barley in 1964 amounted to only 17 percent of the harvested barley acreage. Except for the risk involved in winterkilling, winter barley does better than spring barley. Wheat tends to come through a severe winter in better condition than barley. In most years, the acreage of winter wheat greatly exceeds the acreage of spring wheat. There was only one year on record, 1943, when the acreage of spring wheat exceeded winter wheat.

Prior to 1954, a yield of 50 bushels per acre of wheat on wheat-pea farms was considered excellent. In 1964, a yield this low was poor. From a sample of 89 wheat-pea farms in 1964, 75 reported wheat yields in excess of 50 bushels per acre and 25 reported yields in excess of 70 bushels. In this sample, 2 farmers reported yields of over 90 bushels per acre.

The increasing use of nitrate fertilizers and high-yielding wheat varieties are the primary reasons for the recent phenomenal increase in wheat yields. Prior to 1947, practically no nitrogen fertilizer was used on wheat-pea farms. By 1950, 9 pounds of elemental nitrogen were being used per acre of harvested grain. From 1954 to 1961, about 30 pounds were used per acre of grain. The rates for 1962, 1963, and 1964 were estimated at 43, 48, and 52 pounds, respectively. At first, nitrogen was almost exclusively used for wheat production, but later, more barley was also fertilized. By 1962, the rate per acre on barley was about 90 percent of the rate on wheat.

## NORTHERN PLAINS

### Spring-Wheat Fallow Farms

Net farm incomes per farm in 1964 on typical spring-wheat fallow farms in the Northern Plains decreased 17 percent from 1963 (table 2) and were 33 percent lower than in 1962. Variations in income of this magnitude are not unusual on these farms. Incomes in 1962, 1963, and 1964 set record highs each year.

This is the first time information on these farms has been reported. These estimates represent the median farm in northwestern North Dakota (fig. 1). Farms of a similar type and size predominate in parts of northeastern Montana and in west-central and north-central North Dakota. Information for these farms replaces that for wheat-roughage-livestock farms formerly reported.

The median wheat-fallow farm has about a section of cropland and about 200 acres of nontillable land (table 2). It is increasing in size at the rate of about 19 acres per year. These farmers harvest about a quarter-section of wheat per year. This acreage in 1964 consisted of 30 percent durum and 70 percent hard northern spring wheat. The proportion of durum to other spring wheat varies from year to year, depending on relative prices and Government programs. Other crops harvested are barley, rye, flax, oats, and hay. The acreage in summer fallow exceeds the acreage in wheat, but is less than the total acreage in grain. About 50 acres of hay are harvested on the typical wheat-fallow farm, of which about half is native meadow. The hay and grazing acreage is used to support an expanding beef cattle enterprise.

The sources of income per farm on these farms in 1963 and 1964 were:

<u>Item</u>	<u>1963</u>	<u>1964</u>
Wheat.....	\$7,994	\$6,377
Flax.....	459	461
Other grain.....	2,443	2,253
Hay.....	104	100
Livestock.....	1,623	1,305
Milk and eggs.....	317	305
Government payments.	1,061	1,853
Farm perquisites....	512	538
Total gross income .	\$14,513	\$13,192

The total capital on January 1 used in producing this income was:

<u>Item</u>	<u>1963</u>	<u>1964</u>
Land and buildings...	\$45,700	\$50,080
Machinery and equipment.....	7,890	8,020
Livestock.....	4,130	4,190
Crops held for feed or seed.....	1,430	1,520
Total.....	\$59,150	\$63,810

The increase in 1964 in the value of farm capital was largely the result of an increase in the per acre value of land from \$53.45 to \$57.30.

Farm expenses in 1963 and 1964 were:

<u>Item</u>	<u>1963</u>	<u>1964</u>
Livestock, buildings and fences.....	\$391	\$436
Crop expense.....	653	710
Machinery operating expense.....	2,351	2,370
Machinery depreciation	1,052	1,074
Hired labor.....	224	202
Taxes.....	710	772
Telephone and electricity.....	59	61
Total expense.....	\$5,440	\$5,625



Table 2.- Organization, production, costs and returns, wheat farms, Northern Plains, 1963 and 1964

Item	Unit	Wheat-fallow farms 1/		Wheat-small grain- livestock farms		Wheat-corn- livestock farms	
		1963	1964 2/	1963	1964 2/	1963	1964 2/
Gross farm income.....	Dollar	14,513	13,192	13,244	14,673	11,553	10,367
Total operating expenses.....	do.	5,440	5,625	5,622	5,983	4,842	5,305
Net farm income.....	do.	9,073	7,567	7,622	8,690	6,711	5,062
Total land in farm.....	Acre	855	874	740	750	540	550
All cattle and calves.....	Number	24.9	29.3	27.1	30.1	58.0	63.2
Total farm capital, Jan. 1.....	Dollar	59,150	63,810	57,250	60,540	60,610	63,080
Land and buildings.....	do.	45,700	50,080	40,250	43,100	39,750	42,850
Machinery and equipment.....	do.	7,890	8,020	10,820	11,270	8,370	8,470
Livestock.....	do.	4,130	4,190	4,490	4,310	9,950	9,280
Crops.....	do.	1,430	1,520	1,690	1,860	2,540	2,480
Cropland harvested.....	Acre	346	356	384	401	298	312
All wheat.....	do.	164	177	130	148	59	68
Corn.....	do.	6	5	12	12	57	62
Flax.....	do.	17	16	55	54	28	24
Other small grains.....	do.	111	106	134	131	82	82
Crop yields per acre:							
All wheat.....	Bushel	26	27	22	27	14	16
Corn.....	do.	---	---	---	---	47	29
Flax.....	do.	11	11	9	10	9	8
Barley.....	do.	36	34	31	36	26	28
Prices received for products sold:							
Wheat, per bushel.....	Dollar	1.91	1.37	1.97	1.39	1.97	1.45
Flax, per bushel.....	do.	2.61	2.68	2.73	2.80	2.73	2.80
Cattle, per cwt.....	do.	22.40	19.40	19.90	17.30	19.90	17.30
Index numbers (1957-59=100):							
Crop yields per acre.....	---	180	179	137	162	114	102
Prices received for products sold.....	---	102	82	94	80	100	93
Prices paid, including wages to hired labor.....	---	109	110	103	105	107	106

1/ This is a new series, replacing the wheat-roughage-livestock farm, formerly published for this area. 2/ Preliminary.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

Subtracting total farm expenses from gross income gives the net farm income, which was \$9,073 in 1963 and \$7,567 in 1964.

The 17-percent drop in net farm income in 1964 was the result of a 20-percent drop in prices received for commodities and a slight increase in prices paid for production items. The price drop for wheat was the most severe. Wheat prices dropped from \$1.91 per bushel in 1963 to \$1.37 in 1964. Prices received for other crops averaged about the same in both years. However, cattle prices were down about 16 percent. Aggregate production was about 5 percent higher in 1964. This, combined with the increase in Government payments, offset some of the effects of the unfavorable prices.

### Wheat-Small Grain-Livestock Farms

Net farm income on wheat-small grain-livestock farms was 14 percent higher in 1964 than in 1963, but was 28 percent below the record high in 1962. Production on these farms was 23 percent higher in 1964 than in 1963, but 9 percent

below the 1962 record. Government payments resulting from participation in the wheat and feed grain programs were record high in 1964. These payments amounted to 15 percent of the cash receipts in 1964, as contrasted to 5 percent in 1957-59. Prices received for products were down 15 percent from 1963, and prices paid were up about 2 percent.

Durum wheat in 1964 sold for \$1.35 per bushel and other spring wheat for \$1.45. In 1963, both types of wheat sold for \$1.97 per bushel. Cattle sold for an average \$17.30 per hundredweight in 1964 and \$19.90 in 1963. Rye sold for 93 cents per bushel in 1964 and \$1.00 in 1963. Higher prices were received for barley and flax.

The 23-percent increase in production in 1964 was the result of increases of 4 percent in acreage harvested and of 18 percent in crop yields. The index of crop yields (1957-59 = 100) in 1964 was 162. This was the second highest year on record, being exceeded only in 1962, when the index was 194. The yields per harvested acre for the last 3 years and their averages for 1955-64 are as follows:

<u>Crop</u>	<u>Unit</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>Average 1955-64</u>
Durum wheat . . . . .	Bushel	32.9	24.7	29.1	19.8
Other spring wheat . . . . .	do.	29.1	20.0	24.4	19.2
Oats . . . . .	do.	54.0	33.9	45.4	32.1
Barley . . . . .	do.	42.3	30.6	35.5	25.4
Flaxseed . . . . .	do.	13.1	8.9	9.7	7.5
Rye . . . . .	do.	31.3	21.4	19.9	18.2
Tame hay . . . . .	Ton	1.51	1.28	1.28	1.22
Wild hay . . . . .	do.	1.15	1.02	.96	.93
All crops . . . . .	Index	194	137	162	118

Crop yields in each of the last 3 years were substantially higher than the 1955-64 average.

Current income from livestock and livestock products amounts to about 15 percent of gross farm income. Livestock sources of income returned \$2,250 in 1964 and \$2,313 in 1963. The trend of beef cattle production has been upward for many years, while dairy and poultry production have tended to decline.

Typical wheat-small grain-livestock farms in 1964 had about 750 acres of farmland, of which 53 percent was harvested. In 1955-60, these farms had an average area of 702 acres, with 59 percent harvested. Since 1955-60, the aggregate harvested area has decreased about 10 percent. Production per farm has increased because of increased yields per acre.

Operators of typical wheat-small grain-livestock farms had farm assets worth about \$56.61 per acre in 1955. Land at that time was appraised at \$36.45 per acre. The value of real estate in 1955 comprised about 64.4 percent of all farm assets. From 1955 to 1964, the value of farm assets per acre increased at an average annual rate of 4.1 percent. The corresponding rate of increase in the value of land per acre was 5.2 percent. The value of real estate in 1964 comprised about 71.2 percent of farm assets.

Net farm income, which represents the return to capital and family labor and management, has tended to keep pace with the rise in property values. In 1955-57, net farm income per \$100 of farm

assets was about \$14.10, and, in 1962-64, the ratio was \$16.68. The ratio of income to total assets in the intermediate period was only \$7.43 per \$100. In 1961, the worst year in recent times, net farm income per \$100 of farm capital was only 45 cents.

### Wheat-Corn-Livestock Farms

Net farm incomes on typical wheat-corn-livestock farms averaged \$5,062 per farm in 1964, down from \$6,711 in 1963 (table 2). Contributing to this decline were a 7-percent decrease in prices received for commodities, a 6-percent decrease in production, and a 10-percent increase in farm expenses. Prices paid for production items averaged about the same in 1963 and 1964, but were about 7 percent above 1957-59. Farm expense on these farms averaged \$5,305 in 1964 and \$4,842 in 1963. Feed and other livestock expenses were \$1,032 in 1964 and \$733 in 1963. Most of these expenditures were for hay and protein supplements. Increased outlays for these items accounted for most of the increase in farm expenses in 1964.

Most concentrates and roughages produced on these farms are fed to the livestock produced on them. In 1964, the average farm in this grouping fed 91,600 pounds of grain, 4,500 pounds of other concentrates, and 175 tons of hay or other roughage. In 1963, corresponding figures were 88,000 pounds of grain, 4,300 pounds of other concentrates, and 163 tons of hay or equivalent roughage. The concentrates other than grain were all purchased. No grain was purchased in either 1963 or 1964, but 10 percent of the hay fed in 1963 and 20 percent in 1964 were purchased.



The trend in cattle numbers on these farms has been upward for many years. From the beginning of 1963 to the end of 1964, the average number of cattle increased from 58 to 66 head. Most of these cattle are beef type.

The number of hogs per farm varies from year to year. On January 1, 1964, these farmers had an average of 14 hogs per farm. This is more than the usual number but less than the 18 hogs per farm in the peak years of 1943-49.

On January 1, 1964, there were about as many sheep as hogs on these farms. In most years, the number of breeding ewes averages more than 10 per farm.

Most of these farmers have chicken flocks, but the number per farm has been declining. On January 1, 1959, there were about 120 birds per farm, and on January 1, 1965, 85 per farm. Poultry numbers are likely to keep declining unless poultry and egg prices improve.

The yield of corn for grain decreased from 47 bushels per harvested acre in 1963 to 29 bushels in 1964. The yield of corn for for-

age was also proportionally lower. The yields of hay and flax were slightly lower. The yields of crops that mature early in the year (rye and wheat) were higher. These larger yields, together with slightly more harvested acres and an increase in Government payments, were the major favorable factors in 1964. Government payments increased from about \$1,150 per farm in 1963 to \$1,300 in 1964.

Net farm income on wheat-corn-livestock farms in 1964 amounted to 8 percent of the value of all capital. The corresponding ratio for 1963 was 11 percent. Contributing to the decrease in 1964 was the rise in the price of land. On January 1, 1963, the value of land was estimated at \$73.61 per acre; it increased to \$76.70 on January 1, 1964. This was a 4.2-percent rise. Between 1955 and 1964, the yearly rate of increase averaged 5 percent. For many years, land on these farms has been priced on the expectation that future incomes would be higher. As long as this prevails, the ratio of current income to total value of capital will usually be small. Between 1955 and 1964, annual net farm income averaged 10 percent of the value of capital.

## SOUTHERN PLAINS

### Wheat Farms

Net farm income on typical wheat farms in the Southern Plains in 1964 averaged 9 percent lower than in 1963 (table 3). Incomes in 1963 were about the same as in 1957-59. The major factors responsible for the lower income in 1964 were a drop of about 17 percent in prices received and a rise of about 2 percent in prices paid. Partially off-

setting these unfavorable price shifts were an increase in payments for participation in Government programs. In 1964, they averaged about \$3,575 per farm compared with \$1,900 in 1963. Gross income was down 7.5 percent and farm expenses were down 5.4 percent.

The season average price for wheat was \$1.40 per bushel in 1964 and \$1.86 in 1963. The average



Table 3.- Organization, production, costs and returns, wheat farms, Southern Plains, 1963 and 1964

Item	Unit	Wheat farms			Wheat-grain sorghum farms		
		1963	1964	1/	1963	1964	1/
Gross farm income.....	Dollar	15,807	14,627		17,476	15,218	
Total operating expenses.....	do.	6,721	6,356		10,452	8,269	
Net farm income.....	do.	9,086	8,271		7,024	6,949	
Total land in farm.....	Acre	810	820		889	899	
Total cropland.....	do.	608	616		685	693	
Cropland harvested.....	do.	334	335		307	287	
Wheat.....	do.	216	231		153	161	
Grain sorghum.....	do.	59	44		115	102	
Other grains.....	do.	12	16		3	1	
Forage sorghum and hay.....	do.	38	36		36	23	
Inventory value, Jan. 1:							
Land value, per acre.....	Dollar	109	112		116	124	
Machinery and equipment.....	do.	11,160	11,410		11,100	10,910	
All cattle and calves.....	Number	60.7	63.7		72.5	79.0	
Crop yields per harvested acre:							
Wheat.....	Bushel	18.5	20.0		13.9	15.2	
Grain sorghum.....	Cwt.	19.4	13.0		21.9	18.1	
Forage sorghum.....	Ton	3.2	2.0		2.8	2.0	
Prices received for products sold:							
Wheat, per bushel.....	Dollar	1.86	1.40		1.90	1.40	
Grain sorghum, per cwt.....	do.	1.65	1.88		1.61	1.88	
Steers and heifers, per cwt.....	do.	21.80	19.20		21.80	19.20	
Index numbers (1957-59=100):							
Crop yields per acre.....	---	87	92		73	73	
Prices received for products sold.....	---	104	86		98	86	
Prices paid, including wages to hired labor.....	---	109	111		102	106	

1/ Preliminary.

Note: Information presented here is on an owner-operator basis primarily for comparability between types of farms. Net farm income is the return to operator and unpaid members of the family for their labor and management on the farm and return to total capital. No allowance has been made for payment of rent, interest, or mortgage.

price received by these farmers in 1964 for steers and heifers was \$19.20 per hundredweight and \$12.10 for cows. These prices were about 12 percent below 1963. The season average price for grain sorghum was \$1.88 per hundredweight in 1964 and \$1.64 in 1963. However, only 5.4 tons of sorghum per farm were sold in 1964 compared with 34.6 tons in 1963.

Although farm production remained about the same in 1963 and 1964, the output of the various enterprises was greatly different in the 2 years. Beef cattle production was 19 percent higher in 1964 than in 1963, and wheat production was 16 percent higher. Grain sorghum sold in 1964 amounted to only 16 percent of that in 1963, and the inventory of roughage at the end of 1964 was about one-half as large as at the beginning of the year.

The yield of wheat in 1964 (20 bushels per harvested acre) was practically the same as the average 1955-64, but 1.5 bushels higher than in 1963. Despite fewer acres planted in 1964, the proportion of harvested cropland in wheat increased from 35.5 percent in 1963 to 37.5 percent because of less abandonment in 1964. Potential wheat production on these farms is considerably greater than current production from the standpoint of both land use and crop rotations. The primary restraint on wheat production is voluntary participation in Government programs.

Production of sorghum for both grain and forage was down about 50 percent from 1963. This was largely the result of the drought in 1964 which extended throughout the Plains from North Dakota to Texas. Late-maturing crops were especially affected by this unfavorable weather: Flax and corn on

wheat-corn-livestock farms in South Dakota and grain sorghums in Kansas.

Beef cattle production on typical winter wheat farms has been increasing steadily since 1957. As of January 1, 1957, these farmers had about 4.5 head of cattle per 100 acres of farmland compared with 7.8 head on January 1, 1964. During this period, dairying declined relative to beef production. Of the cows and heifers, 2 years old and over, 19 percent were kept for milk on January 1, 1957; the figure dropped to 12 percent on January 1, 1964. These farmers usually buy calves for further feeding. In 1957, the net number of calves purchased--the difference between numbers purchased and numbers sold--comprised 3 percent of all calves, under 1 year of age, on January 1, 1958. The net number purchased in 1963 comprised 23 percent of all calves, under 1 year of age, on January 1, 1964. The total number of calves purchased in 1964 averaged 2.8 head compared with 5.3 in 1963. Cows were culled at a heavier rate in 1964 than in 1963. In 1964, 45 percent of the cows were sold compared with 24 percent in 1963.

The reduction in the number of calves purchased and the increase in the rate of culling resulted in a 14-percent decline in the number of cattle on these farms during 1964. This reduction resulted from the poor forage crop in 1964.

Farm expenses on typical wheat farms declined from \$6,721 in 1963 to \$6,356 in 1964. A major factor in this decline was a reduction in the cost of calves. In addition to fewer purchases, prices paid per hundredweight were 19 percent lower. Because of the reduced income and the reduction in livestock



numbers, there was very little cash expense for repairing or replacing of service buildings. Purchases of farm machinery were also below normal. This resulted in a 3-percent decline in the power and machinery index and reflected an increase in the average age of this equipment.

### Wheat-Grain Sorghum Farms

Net farm incomes on typical wheat-grain sorghum farms averaged about \$7,000 per farm in 1963 and in 1964 (table 3). Incomes in these years were slightly higher than in 1957-59, but were about 40 percent lower than the record incomes in 1960-62. Production on these farms in 1964 was down about 38 percent from 1960-62 and down about 14 percent from 1957-59. Prices received for products sold in 1964 were down about 12 percent from 1963 and about 14 percent from 1957-59. Prices paid in 1964 were 4 percent higher than in 1963 and 6 percent above 1957-59. Increased payments in 1964 for participating in Government programs tended to offset these unfavorable price shifts.

The drought in 1964 was especially severe on wheat-grain sorghum farms. However, these farms are partly irrigated, and yields per acre on irrigated land were not materially affected. Estimated yields on irrigated and nonirrigated land for 1963 and 1964 were as follows:

Crop	Unit	1963		1964	
		Irrig.	Non- irrig.	Irrig.	Non- irrig.
Wheat	Bu.	29.8	12.3	35.5	13.4
Grain sorghum	Cwt.	45.0	17.8	45.6	11.3
Forage sorghum	Ton	4.0	3.3	3.0	1.5
Alfalfa hay	Ton	4.7	1.9	4.1	2.0

The amount of irrigated land per farm is gradually increasing. Currently, about 30 percent of the harvested hay and forage sorghum acreage, 20 percent of the grain sorghum, and 8 percent of the wheat acreage is irrigated.

The income from beef cattle frequently exceeds the income from either wheat or grain sorghum on these farms. In 1963 and 1964, the income from cattle equaled about 40 to 45 percent of the total income from all sources.

The cattle enterprise consists of a small breeding herd, which varied from 13 to 25 head per farm during 1957-64. This variation is related to the supply of forage. In years of short supply, the culling rate is increased; in years of plentiful supply, more heifers are added to the breeding herd. Except for possibly some interfarm sales, no calves are sold. Most steers and heifers are sold as 2-year-olds. In addition to keeping their own calves, these farmers have been buying an increasing number from adjacent areas. Purchases averaged 6.5 head per farm in 1957 and 26.4 head in 1963. Purchases comprised 44 percent of the calves under 1 year of age on January 1, 1958, and 65 percent on January 1, 1964.

Cattle numbers reached an all-time high on January 1, 1964. The buildup resulted from an increase in the size of the breeding herd and an increase in the number of calves purchased.

In 1964, about 50 tons of forage was produced per farm compared with about 100 tons in 1963. These wheat-grain sorghum farmers reacted to this unusually short feed supply by: (1) Reducing the number of calves purchased from 26.4 in

1963 to 10.5 in 1964, (2) increasing the rate at which cows were culled, from 27 percent in 1963 to 40 percent in 1964, and (3) carrying over less feed at the end of the year, from 80 tons of roughage in 1963 to 36 tons in 1964.

Cattle production in 1964 was 18 percent less than in 1963, and the value of production was 29 percent less than in 1963. Wheat production was 15 percent more than in 1963, but value of production was 16 percent less. Grainsorghum production

was down 27 percent from 1963, and value of production was 14 percent lower.

Farm expenses in 1964 declined about \$2,185 per farm from 1963. The major reason for this decline was the reduction in the outlay for calves, which fell from \$2,875 in 1963 to \$928 in 1964. Fewer calves were bought, and calf prices declined from \$24.20 per hundredweight to \$19.63. Partly offsetting were increased expenditures for farm machinery and equipment and service buildings.





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